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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,367	09/29/2000	Yoshiaki Yokoyama	Yaguchi-0012	2186

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EXAMINER

RINEHART, KENNETH

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 04/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/676,367

Applicant(s)

YOKOYAMA ET AL.

Examiner

Kenneth B Rinehart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34 and 35 is/are allowed.
- 6) ☒ Claim(s) 1-29, 31-33 and 36 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed 8/22/01 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Document 8-501601 is missing and there is no statement of relevance or abstract enclosed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11-12, 22, 23, 25-29, 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Mak et al. Mak et al shows introducing the first soil to a hermetic zone (col. 2, line 29, 22, fig. 1), thermally decomposing at least a part of the organic halides by heating the first soil under reduced pressure (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3), the organic halides are dioxins (col. 2, line 43), reducing the concentration of halogen contained in gases produced by the thermal decomposition of the soil (col. 3, lines 7-11), wherein a thermally decomposed residue of the first soil is cooled after the hermetic zone is purged by a purge gas which is substantially organic halide free and not capable of generating organic halides (col. 7,

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line 59, col. 9, lines 61-64, fig. 3), the purge gas contains at least one element selected from a group consisting of helium, neon, argon, krypton, xenon, nitrogen, and hydrogen (col. 7, line 59), wherein the thermally decomposing step is performed in the hermetic zone where an oxygen concentration is controlled (12, fig. 1, col. 5, lines 51-68, col. 6, lines 1-3), the soil containing organic halides is thermally decomposed under reduced pressure (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3), the concentration of halogen contained in gases produced by the thermal decomposition of soil is reduced (col. 3, lines 7-11), wherein an object to be treated containing organic halides is thermally decomposed under reduced pressure (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3), means for heating the object (76, 78, 80, fig. 1), a hermetic zone (12, fig. 1), means for introducing a heated residue to the hermetic zone (22, fig. 1), means for purging the hermetic zone by a purge gas which is substantially organic halide free (126, fig. 1), means for cooling the heated residue (fig. 3), the heating means is a thermal decomposition furnace for thermally decomposing the object (12, fig. 1), wherein the heating means is a reduced pressure thermal decomposition furnace for thermally decomposing the object to be treated under reduced pressure (12, fig. 1), the purging means introduces the purge gas after the pressure in the hermetic zone is reduced (col. 5, lines 11-15, lines 26-29, 168, fig. 1), wherein a heated residue containing residual dioxins generated from waste disposal facilities and factories is treated while being heated with a reduction in temperature (col. 5, lines 11-15, col. 5, lines 51-68, col. 6, lines 1-3, 38, 16, fig. 1),

Claims 7-10, 13, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fochtman et al. Fochtman et al shows heating the first soil so that at least part of the organic halide are evaporated or decomposed (col. 6, lines 63-69, col. 7, lines 1-3, col. 7, line 26)

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introducing a heated residue of the soil to a hermetic zone (13, fig. 6), cooling the heated residue of the first soil (8, fig. 6) after the hermetic zone is purged by a purge gas which is substantially organic halide free and not capable of generating organic halides (8, fig. 6), the organic halides are dioxins (col. 7, line 59), the purge gas contains at least one element selected from a group consisting of helium, neon, argon, krypton, xenon, nitrogen, and hydrogen (col. 16, line 9), reducing a concentration of halogen contained in gases produced by heating the first soil (col. 9, lines 54-58), means for heating the soil (5, fig. 6), a hermetic zone (13, fig. 6), means for introducing a heated residue of the soil from the means for heating the soil to the hermetic zone (screw flights of 5, fig. 6), means for purging the hermetic zone by a purge gas which is substantially organic halide free (which is short of organic halides) (9, fig. 6), means for cooling the heated residue (8, fig. 6), halogen trapping means having a metal for forming chemical compounds with halogen contained in gases produced by heating of the soil or an absorbent for absorbing the halogen in the produced gases (col. 9, lines 9-17)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-19, 21, 23-29, 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Veltmann in view of Mak et al. Veltmann discloses means for heating the soil or object (20, fig. 2), a hermetic zone (2, fig. 2), means for introducing a heated residue of the soil from the means for heating the soil to the hermetic zone (57, fig. 15), means for cooling the heated residue

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(4, fig. 2), the heating means is a combustion furnace for performing combustion treatment for the soil (20, fig. 2), the heating means is a combustion furnace for combusting the object (20, fig. 2), reforming means for reforming gases produced by the heating of the soil at a first temperature at which dioxins are decomposed (col. 11, lines 34-47), cooling means for cooling the produced gases to a second temperature so that an increase in the concentration of the dioxins in the gases is suppressed (col. 11, lines 47-55). Veltmann discloses applicant's invention substantially as claimed with the exception of means for purging the hermetic zone by a purge gas which is substantially organic halide free, the heating means is a thermal decomposition furnace for thermally decomposing the object, wherein the heating means is a reduced pressure thermal decomposition furnace for thermally decomposing the object to be treated under reduced pressure, the purging means introduces the purge gas after the pressure in the hermetic zone is reduced, the organic halides are dioxins, the purge gas contains at least one element selected from a group consisting of helium, neon, argon, krypton, xenon, nitrogen, and hydrogen. Mak teaches means for purging the hermetic zone by a purge gas which is substantially organic halide free (col. 6, lines 4-11), the heating means is a thermal decomposition furnace for thermally decomposing the object (12, fig. 1), wherein the heating means is a reduced pressure thermal decomposition furnace for thermally decomposing the object to be treated under reduced pressure (12, fig. 1), the purging means introduces the purge gas after the pressure in the hermetic zone is reduced (col. 5, lines 11-15, lines 26-29, 168, fig. 1), the organic halides are dioxins (col. 7, line 59), the purge gas contains at least one element selected from a group consisting of helium, neon, argon, krypton, xenon, nitrogen, and hydrogen (col. 16, line 9). It would have been obvious to one of ordinary skill in the art to modify Veltmann by including

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means for purging the hermetic zone by a purge gas which is substantially organic halide free, the heating means is a thermal decomposition furnace for thermally decomposing the object, wherein the heating means is a reduced pressure thermal decomposition furnace for thermally decomposing the object to be treated under reduced pressure, the purging means introduces the purge gas after the pressure in the hermetic zone is reduced, the organic halides are dioxins, the purge gas contains at least one element selected from a group consisting of helium, neon, argon, krypton, xenon, nitrogen, and hydrogen as taught by Mak et al for the purpose of reducing the quantity of off gases to reduce the cost of the process.

Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mak in view of Veltmann. Mak discloses wherein an object to be treated is passed through a furnace allowing the ... of thermal decomposition temperature or through a plurality of reduced pressure furnaces different in thermal decomposition temperature when being subjected to thermal decomposition treatment while the pressure is being reduced from normal pressure (col. 5, lines 11-23, col. 5, lines 51-68, col. 6, lines 1-3), a furnace allowing the ... of thermal decomposition temperature at which an object to be treated is subjected to thermal decomposition treatment is provided, the pressure is changed from normal pressure to a predetermined degree of vacuum, and thus the degree of vacuum is allowed to be maintained (col. 5, lines 11-23, col. 5, lines 51-68, col. 6, lines 1-3, col. 9, lines 14-19). Mak discloses applicant's invention substantially as claimed with the exception of control. Veltmann teaches control (col. 17, lines 31-45) for the purpose of diagnosing malfunctions. It would have been obvious to one of ordinary skill in the art to modify Mak by including control as taught by Veltmann for the purpose of diagnosing malfunctions to facilitate corrective actions and decrease downtime.

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*Allowable Subject Matter*

Claims 34 and 35 are allowed.

Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of art with respect to soils in general: Melzer et al (5,405,579), Krabbenhoft et al (5797995), Weyand et al (5300137), Buizza et al (5678496), Schulz (5245113).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B Rinehart whose telephone number is 703-308-1722. The examiner can normally be reached on 7:30-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 703-308-1935. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-308-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

KBR  
April 16, 2003

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Kenneth Rinehart

Patent Examiner

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